



Australian Bureau of Statistics

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Summary

About this Release

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In repeated surveys the focus is often on the movement of time series of key characteristics of interest. Changes to the methodology used in these surveys can often affect these key estimates, resulting in trend breaks or large movements. When changes in methodology are contemplated it is desirable to attempt to quantify these effects.

This paper describes the testing of a new questionnaire for the Australian Labour Force Survey (LFS). Testing strategies used in the development of the new questionnaire are described, followed by a discussion of the statistical design and estimation of the statistical impact of the new questionnaire on the key series. The statistical analysis and associated testing strategy that have been developed take advantage of the strong correlations between estimates from the same individuals over time. Under the assumption that a respondent's replies do not depend on the questions they were asked in a previous month, the statistical estimator described in this paper is the best linear unbiased estimator of the new questionnaire effect.

Section 2 of this paper provides some background to the LFS. Section 3 describes the motivation behind the introduction of the new LFS questionnaire. Section 4 describes testing strategies used in the questionnaire development. Section 5 describes three competing statistical designs which could be used in the estimation of the statistical impact of the new questionnaire. Also described in this Section is a simple additive model for questionnaire effect, and a composite estimator of this effect is derived. The composite estimator is unbiased and has minimum variance under a known autocovariance structure (which in practice is estimated from past data). The three statistical strategies are compared in Section 6.